

CLAIM AMENDMENTS

1 through 33 (canceled)

1 34. (New) MVA-BN as deposited at the European
2 Collection of Animal Cell Cultures (ECACC) under No. V00083008
3 comprising at least two foreign genes which are homologous in
4 comparison to each other, wherein each of said genes is inserted
5 into a different insertion site of the MVA-BN poxviral genome.

1 35. (New) A vaccine comprising MVA-BN as deposited at
2 the European Collection of Animal Cell Cultures (ECACC) under No.
3 V00083008 comprising at least two foreign genes which are
4 homologous in comparison to each other, wherein each of said genes
5 is inserted into a different insertion site of the MVA-BN poxviral
6 genome.

1 36. (New) A pharmaceutical composition comprising MVA-BN
2 as deposited at the European Collection of Animal Cell Cultures
3 (ECACC) under No. V00083008 comprising at least two foreign genes
4 which are homologous in comparison to each other, wherein each of
5 said genes is inserted into a different insertion site of the MVA-
6 BN poxviral genome and a pharmaceutically acceptable carrier,
7 diluent, adjuvant and/or additive.

1 37. (New) A method for effecting an immune response in
2 a living animal, including a human, comprising administering a
3 therapeutically effective amount of MVA-BN as deposited at the
4 European Collection of Animal Cell Cultures (ECACC) under No.
5 V00083008, comprising at least two foreign genes which are
6 homologous in comparison to each other, wherein each of said genes
7 is inserted into a different insertion site of the MVA-BN poxviral
8 genome, to the animal or human to be treated.

1 38. (New) An isolated cell comprising MVA-BN as
2 deposited at the European Collection of Animal Cell Cultures
3 (ECACC) under No. V00083008, comprising at least two foreign genes
4 which are homologous in comparison to each other, wherein each of
5 said genes is inserted into a different insertion site of the MVA-
6 BN poxviral genome.

1 39. (New) A method for producing MVA-BN as deposited at
2 the European Collection of Animal Cell Cultures (ECACC) under No.
3 V00083008, comprising at least two foreign genes which are
4 homologous in comparison to each other, wherein each of said genes
5 is inserted into a different insertion site of the MVA-BN poxviral
6 genome, comprising the steps of

- 7 - infecting a cell with MVA-BN as deposited at the
8 European Collection of Animal Cell Cultures (ECACC) under
9 No. V00083008;
10 - transfecting the infected cell with a first vector

11 construct comprising a gene being heterologous to the MVA-BN
12 poxviral genome, and a genomic poxvirus sequence capable of
13 directing the integration of the heterologous gene into an
14 insertion site of the MVA-BN poxviral genome;

15 - identifying, isolating and, optionally, purifying the
16 generated recombinant poxvirus;

17 - repeating the above steps by using the recombinant
18 poxvirus obtained from previous steps for infecting the cell and an
19 additional vector construct comprising a further gene being
20 heterologous to the poxviral genome and homologous to the gene of
21 the first vector construct.

1 40. (New) A method for detecting cells, cell lysates or
2 fractions thereof infected with MVA-BN as deposited at the European
3 Collection of Animal Cell Cultures (ECACC) under No. V00083008,
4 comprising at least two foreign genes which are homologous in
5 comparison to each other, wherein each of said genes is inserted
6 into a different insertion site of the MVA-BN poxviral genome,
7 which comprises the steps of:

8 (a) contacting the cells or the lysates or factions
9 thereof with a probe containing a DNA sequence, wherein the DNA
10 sequence comprises the at least two foreign genes, which are
11 homologous in comparison to each other, and at least a part of the
12 sequence of the MVA-BN poxviral genome as deposited at the European
13 Collection of Animal Cell Cultures (ECACC) under No. V00083008, to

14 permit hybridization between the homologous genes in the probe and
15 the homologous genes from any of the MVA-BN as deposited at the
16 European Collection of Animal Cell Cultures (ECACC) under No.
17 V00083008, comprising at least two foreign genes which are
18 homologous in comparison to each other, wherein each of said genes
19 is inserted into a different insertion site of the MVA-BN poxviral
20 genome, contained in the cells;

21 (b) determining whether hybridization has occurred
22 between the DNA sequence in the probe and DNA in any MVA-BN as
23 deposited at the European Collection of Animal Cell Cultures
24 (ECACC) under No. V00083008, comprising at least two foreign genes
25 which are homologous in comparison to each other, wherein each of
26 said genes is inserted into a different insertion site of the MVA-
27 BN poxviral genome, in the cells, cell lysates or fractions
28 thereof; and

29 (c) relating the information obtained according to step
30 (b) to determine the presence of the MVA-BN as deposited at the
31 European Collection of Animal Cell Cultures (ECACC) under No.
32 V00083008, comprising at least two foreign genes which are
33 homologous in comparison to each other, wherein each of said genes
34 is inserted into a different insertion site of the MVA-BN poxviral
35 genome, in the cells, cell lysates or fractions thereof.

1 41. (New) A method for identifying in a biological
2 sample MVA-BN as deposited at the European Collection of Animal
3 Cell Cultures (ECACC) under No. V00083008, comprising at least two
4 foreign genes which are homologous in comparison to each other,
5 wherein each of said genes is inserted into a different insertion
6 site of the MVA poxviral genome, which comprises the steps of:

7 (a) contacting the sample with a probe containing a DNA
8 sequence, wherein the DNA sequence comprises the at least two
9 foreign genes, which are homologous in comparison to each other,
10 and at least a part of the sequence of the MVA-BN poxviral genome
11 to permit hybridization between the homologous genes in the probe
12 and the homologous genes from any MVA-BN as deposited at the
13 European Collection of Animal Cell Cultures (ECACC) under No.
14 V00083008, contained in the sample;

15 (b) determining whether hybridization has occurred
16 between the DNA sequence in the probe and the DNA in any MVA-BN as
17 deposited at the European Collection of Animal Cell Cultures
18 (ECACC) under No. V00083008, comprising at least two foreign genes
19 which are homologous in comparison to each other, wherein each of
20 said genes is inserted into a different insertion site of the MVA-
21 BN poxviral genome, contained in the sample; and

22 (c) relating the information obtained according to step
23 (b) to determine the presence of the MVA-BN as deposited at the
24 European Collection of Animal Cell Cultures (ECACC) under No.

25 V00083008, comprising at least two foreign genes which are
26 homologous in comparison to each other, wherein each of said genes
27 is inserted into a different insertion site of the MVA-BN poxviral
28 genome, in the sample.

1 42. (New) A method for detecting cells, cell lysates or
2 fractions thereof infected with MVA-BN as deposited at the European
3 Collection of Animal Cell Cultures (ECACC) under No. V00083008,
4 comprising at least two foreign genes which are homologous in
5 comparison to each other, wherein each of said genes is inserted
6 into a different insertion site of the MVA poxviral genome, which
7 comprises the steps of:

8 (a) contacting the cells, cell lysates, or fractions
9 thereof with DNA primers selectively amplifying the foreign genes;

10 (b) determining whether hybridization has occurred
11 between the DNA primer and the DNA in the any MVA-BN as deposited
12 at the European Collection of Animal Cell Cultures (ECACC) under
13 No. V00083008, comprising at least two foreign genes which are
14 homologous in comparison to each other, wherein each of said genes
15 is inserted into a different insertion site of the MVA poxviral
16 genome, contained in the cells, cell lysates or fractions thereof
17 and

18 (c) relating the information obtained according to step
19 (b) to determine the presence of the MVA-BN as deposited at the
20 European Collection of Animal Cell Cultures (ECACC) under No.
21 V00083008, comprising at least two foreign genes which are
22 homologous in comparison to each other, wherein each of said genes
23 is inserted into a different insertion site of the MVA poxviral
24 genome, in the cells, cell lysates or fractions thereof.

1 43. (New) The method according to claim 42, wherein the
2 cells, cell lysates or fractions thereof are, in addition or as an
3 alternative to step (a), contacted with DNA primers selectively
4 binding to the flanking sequences related to the insertion sites of
5 the foreign genes.

1 44. (New) A method for identifying in a biological
2 sample an MVA-BN recombinant poxvirus as deposited at the European
3 Collection of Animal Cell Cultures (ECACC) under No. V00083008,
4 comprising at least two foreign genes which are homologous in
5 comparison to each other, wherein each of said genes is inserted
6 into a different insertion site of the MVA-BN poxviral genome,
7 which comprises the steps of:

8 (a) contacting the sample with DNA primers exclusively
9 amplifying the foreign genes;

10 (b) determining whether hybridization has occurred
11 between the DNA primer and the DNA in any MVA-BN as deposited at

12 the European Collection of Animal Cell Cultures (ECACC) under No.
13 V00083008, comprising at least two foreign genes which are
14 homologous in comparison to each other, wherein each of said genes
15 is inserted into a different insertion site of the MVA poxviral
16 genome in the sample; and

17 (c) relating the information obtained according to step
18 (b) to determine the presence of the MVA-BN as deposited at the
19 European Collection of Animal Cell Cultures (ECACC) under No.
20 V00083008, comprising at least two foreign genes which are
21 homologous in comparison to each other, wherein each of said genes
22 is inserted into a different insertion site of the MVA poxviral
23 genome, in the sample.

1 45. (New) The method according to claim 44, wherein the
2 sample is, in addition or as an alternative to step (a), contacted
3 with DNA primers selectively binding to the flanking sequences
4 related to the insertion sites of the foreign genes.